

Remarks

Claims 10-18 and 21-16 are currently pending and stand rejected. By way of the foregoing amendment, claims 10-13, 21-22, and 24-26 are amended.

The Examiner has maintained the rejection of claims 10-18 and 21-23 under 35 U.S.C. §103(a), repeating the rejection from the prior Office Action received in this Application and has likewise rejected claims 24-26 under 35 U.S.C. §103(a) as being unpatentable over the combined disclosures of U.S. Patent No. 6,261,598 to Runge *et al.* and the English-translated Abstract of German Patent Application Pub. No. DE 41 10087 to Woerwag *et al.* .. Applicant respectfully disagrees for the following reasons.

As previously asserted by the Applicant, Runge is directed to carotenoid formulations for cosmetic preparations and supplements and merely includes a cursory disclosure of benfotiamine as one of several potential *adjunct* ingredients therein. See Runge col. 3, lines 3-4. In Runge, there is no discussion of the properties or effects of benfotiamine alone or when incorporated with any of these other several listed potential adjunct ingredients. There is no disclosure of benfotiamine to be used as an *active* agent in a topical composition, nor for the specific purpose to act *directly upon* the cells of the skin to achieve beneficial effects by reducing glycated proteins in the skin, as is required by Applicants present claims. In fact, in the December 16, 2005 Office Action, the Examiner confirms that Runge does not explicitly teach methods of treating skin damage. See Office Action at p. 3.

The Examiner proceeds to cited the English-translated Abstract of Woerwag as teaching this missing claim element of the treatment of skin damage, noting the disclosure of benfotiamine pharmaceutical which may be used to treat various diseases, including shingles, a virus of the nerve cells which may happens to include symptoms (i.e., rash) that appear upon the skin. However, Woerwag's compositions do not act upon nor treat the cells of the skin itself. Woerwag specifically teaches merely using the

skin as a delivery vehicle, with the benfotiamine compositions passing there-through in order to acting upon the underlying internal body parts affected by disease/disorders. See Woerwag translation at col. 3, lines 8-14.

Applicant has had a full translation of the Description of Woewarg prepared and attaches it to this Response, along with the Translation Certification. Applicant has included line numbers for ease of reference and highlighted portions of the Description which it wishes to point out to the Examiner.

The Description of Woewarg discloses use “locally to such area of the skin, which cover areas of the body that require treatment. “ See Woerwag Translation at col. 1, lines 53-55. This disclosure supports Applicant's repeated arguments that Woerwag does not teach or suggest treatment of the skin cells directly, but rather acts upon the underlying body part and its cells to treat the disorder with which that body part is affected. The following portions of Woerwag support this:

...Benfotiamin penetrating through the skin **in to the cell system beneath.**

See *id.* at col. 1, lines 56-57; (emphasis added);

...applying Benfotiamin through **targeted local action via the skin into areas of the body requiring treatment**, where it is converted into the active ingredient thiamine and/or cocarboxylase.

See *id.* at col. 2, lines 15-18 (emphasis added);

...relatively short **transportation path between the skin and the treated body area before reaching the cell regions that in fact require treatment.**

See *id.* at col. 2, lines 27-29 (emphasis added);

...the liposomes penetrate very quickly through the skin areas and **release Benfotiamine *only* in the body's cells beneath the skin.** This way, quick, targeted administration of the Benfotiamin **into the areas of the body requiring treatment** can be achieved.

See *id.* at col. 3, lines 9-13 (emphasis added); and

In all of these applications, Benfotiamin, which is incorporated into ointment carriers, is applied to the appropriate skin area in the **region of the diseases body parts and can unfold its effect** very quickly in a targeted manner, usually after just a few minutes...

See *id.* at col. 3, lines 57 to 62 (emphasis added).

Woerwag merely discloses compositions applied topically, such as creams, ointments, liposomes, lipophilic carriers, and aerosols, as a delivery means as of known benfotiamine treatment for disorders such as rheumatism, joint and muscle pain, etc., as listed in the Woerwag. See *id.* at col. 2, lines 51, 56-58; col. 3, lines 24-39, 51-57 (N.B. none of these are disorders or diseases of the organ/cells of the skin). As detailed in the Translation, Woerwag merely discloses delivery through-the-skin only in order to reach internal body parts for action upon the affected cells thereof, delivering benfotiamine therapy internally, and in alternate delivery form to the well-known oral therapies. In fact, Woerwag teaches away from directly acting upon and treating the cells of the skin, as it specifically discloses skin to merely be the "transportation path" used to reach the underlying body part that requires treatment. See *id.* at col. 2, lines 29-30.

In contrast, all claims of the present invention requires compositions acting directly upon the cells of skin. See independent claims 10-13, 21-22, 24-26, as amended herein). Further, claims of the present invention require that upon acting directly upon the cells of the skin, the composition reduces the quantity of glycated

proteins (claims 10, 11, 13, 21, and 25) or reduces the formation of glycated proteins (claims 12, 22, 24, and 26).

Further, if the benfotiamine composition of Woerwag were modified to act upon and treated the cells of the skin directly, it would frustrate the explicitly disclosed purpose of Woerwag, i.e, to pass through the skin to deliver benfotiamine to the underlying body part and the cells thereof to treat the disease/disorder, and thus, would render Woerwag non-functioning and inoperative in treating the underlying body part requiring treatment. Hence, there would be no suggestion or motivation to modify Woerwag to have its compositions alternatively act upon the cells of the skin.

Runge and Woerwag do not teach or suggest benfotiamine for action directly upon the cells of the skin, never-mind improvement of skin, wherein the composition reduces the quantity of glycated proteins (claims 10, 11, 13, 21, and 25) or reduces the formation of glycated proteins (claims 12, 22, 24, and 26) as is presently claimed. Hence, for at least these reasons, Applicants present claims are patentable over Runge in view of Woerwag.

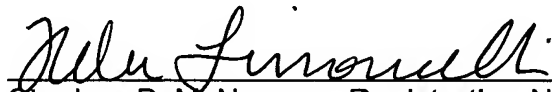
The Examiner states that there exists an overlap in the patient populations between those that would likely be treated by the presently claimed methods and those of Woerwag suffering from rheumatic disorders and shingles, who are more likely to be middle-aged to elderly. Applicant respectfully disagrees, as the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) states that rheumatic disorders affect people of all ages, as is true of the many other listed diseases in Woerwag. See National Institutes of Health (NIH) Publication No. 02-4999. A population of individuals who are dealing with a chronic condition or disease, looking to internal treatment of benfotiamine as a treatment is quite different from the population who are dealing with the normal effects of aging, such as wrinkles, break down of collagen and loss of elasticity of the skin, looking to improve their appearance. These

populations are experiencing substantially different conditions, are looking for very different benefits, and do not overlap in this sense.

Applicant respectfully asserts that in light of the foregoing amendment and remarks, the Response renders all pending claims in condition for allowance, and early notice of such is requested.

Respectfully submitted,

April 13, 2006



Stephen P. McNamara, Registration No. 32,745

Helen M. Limoncelli, Registration No. 51,950

Attorneys for Applicant

ST.ONGE STEWARD JOHNSTON & REENS LLC

986 Bedford Street

Stamford, CT 06905-5619

203 324-6155